IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Applicant:	Apostolopoulos et al.	Patent Application	
Application No.:	09/898,650	Group Art Unit:	2623
Filed:	July 3, 2001	Examiner:	Koenig, Andrew Y.

For: SYSTEM AND METHOD FOR RECEIVING MULTIPLE DESCRIPTION MEDIA STREAMS IN FIXED AND MOBILE STREAMING MEDIA SYSTEMS

APPEAL BRIEF

Table of Contents

I. Real Party in Interest

The assignee of the present invention is Hewlett-Packard Development Company, L.P.

II. Related Appeals and Interferences

There are no related appeals or interferences known to the Appellants.

III. Status of Claims

Claims 1-12 and 14-24 are rejected. Claim 13 had been cancelled without prejudice.

This Appeal involves Claims 1-12 and 14-24.

IV. Status of Amendments

All proposed amendments have been entered. An amendment subsequent to the Final Action has not been filed.

V. Summary of Claimed Subject Matter-

Independent Claims 1, 8 and 18 of the instant application pertain to embodiments associated with receiving multiple description media streams.

As recited in Claim 1, "[a] client for receiving multiple description media streams" is described. This embodiment is depicted at least in FIG. 19, wherein "a schematic diagram of a mobile client 1900 in accordance with one embodiment of the present invention is shown" (page 62, lines 13-15). "[M]obile client 1900 is capable of receiving a plurality of MD bitstreams (page 62, lines 21-22). "[W]hen a back channel is available (e.g. back channel 1922), the decision information is sent, for example, to a base station so that the base station can make an intelligent decision regarding the service it is providing to mobile client 1900" (page 66, lines 2-6). "[I]f decoder 1910 can readily keep up with the filling of buffer 1 1906 and buffer N 1908, and various other collected information indicates that mobile client 1900 has the ability to handle additional available bitstreams, then source control module 1916 may choose to add another receiving session from a base station or prefer to receive an additional MD bitstream. Once again, when a back channel is available (e.g. back channel 1922), the decision information is sent, for example, to a base station so that the base station can make an intelligent decision regarding the service it is providing to mobile client 1900 (page 67, lines 17-25). "[M]obile client 1900 also includes two buffers, buffer 11906 and buffer N 1908 which are coupled both to receiver 1904 and to multiple description decoder 1910 which, in turn, is coupled to display 1912" (page 62, lines 35-38). "[B]uffer 1 1906 and buffer N 1908 are also coupled to synchronization module 1914. Synchronization module 1914 is used, in part, to blend/combine the plurality of received MD bitstreams. Synchronization module is coupled to source control module 1916 which is further

comprised of a channel quality monitor [1918] and a power strength monitor 1920" (page 63, lines 25-30). "As shown in Figure 19, source control monitor 1916 selectively determines (via switches 1924a and 1924b) whether or not antennae 1902a and 1902b pass any received MD bitstreams to receiver 1904. More specifically, channel quality monitor 1918 of the present embodiment detects channel qualities such as the signal strength from various base stations" (page 64, lines 2-7). "This encoded video stream is ultimately to be displayed to a user via display 1912" (page 63, lines 38-39).

As recited in Claim 8, "[a] method for receiving multiple description media streams at a client" is described. This embodiment is depicted at least in Fig. 19 and Fig. 20. "At step 2000, the present embodiment receives two MD bitstreams. In the present embodiment, as described above, the following example will further assume that the media to be streamed (e.g. a video stream) has been or will be encoded into two separate complimentary MD bitstreams" (page 66, lines 13-17). "[W]hen a back channel is available (e.g. back channel 1922), the decision information is sent, for example, to a base station so that the base station can make an intelligent decision regarding the service it is providing to mobile client 1900" (page 66, lines 2-6). "[I]f decoder 1910 can readily keep up with the filling of buffer 1 1906 and buffer N 1908, and various other collected information indicates that mobile client 1900 has the ability to handle additional available bitstreams, then source control module 1916 may choose to add another receiving session from a base station or prefer to receive an additional MD bitstream. Once again, when a back channel is available (e.g. back channel 1922), the decision information is sent, for example, to a base station so that the base station can make an intelligent decision regarding the service it is providing to mobile client 1900 (page 67, lines 17-25). "At step 2004, the present embodiment loads the first and second

bitstreams into corresponding buffers. In this example, the first MD bitstream is loaded into buffer 1 1906, and the second MD bitstream is loaded into buffer N 1908" (page 66, lines 24-27). "At step 2006, the present embodiment monitors operation of the mobile client 1900. Specifically, synchronization module 1914 monitors the fullness of buffer 11906 and buffer N 1908 and the deciding process performed by source control module 1916. In one embodiment, this information along with other collected information (e.g. power consumption data, channel quality information, and the like) is feed back to source control module 1916. At step 2008, the present embodiment, determines if the current operation of mobile client 1900 is appropriate. In one embodiment, source control module 1916 decides whether decoder 1910 is capable of decoding another MD bitstream thereby initiating another receiving session. If the current operation is appropriate, the present method continues the monitoring process. If the current operation is not appropriate (e.g. decoder 1910 is not capable of decoding the present number of MD bitstreams, decoder 1910 is capable of decoding a greater number of MD bitstreams, and the like), then the present embodiment proceeds to step
2010" (page 66, line 29, through page 67, line 7). "This encoded video stream is ultimately to be displayed to a user via display 1912" (page 63, lines 38-39).

As recited in Claim 18, "[a] client for receiving multiple description media streams" is described. This embodiment is depicted at least in FIG. 19, wherein "a schematic diagram of a mobile client 1900 in accordance with one embodiment of the present invention is shown" (page 62, lines 13-15). "[M]obile client 1900 is capable of receiving a plurality of MD bitstreams (page 62, lines 21-22). "[W]hen a back channel is available (e.g. back channel 1922), the decision information is sent, for example, to a base station so that the base

station can make an intelligent decision regarding the service it is providing to mobile client 1900" (page 66, lines 2-6). "[I]f decoder 1910 can readily keep up with the filling of buffer 1 1906 and buffer N 1908, and various other collected information indicates that mobile client 1900 has the ability to handle additional available bitstreams, then source control module 1916 may choose to add another receiving session from a base station or prefer to receive an additional MD bitstream. Once again, when a back channel is available (e.g. back channel 1922), the decision information is sent, for example, to a base station so that the base station can make an intelligent decision regarding the service it is providing to mobile client 1900 (page 67, lines 17-25). "[M]obile client 1900 also includes two buffers, buffer 11906 and buffer N 1908 which are coupled both to receiver 1904 and to multiple description decoder 1910 which, in turn, is coupled to display 1912" (page 62, lines 35-38). "[B]uffer 1 1906 and buffer N 1908 are also coupled to synchronization module 1914. Synchronization module 1914 is used, in part, to blend/combine the plurality of received MD bitstreams. Synchronization module is coupled to source control module 1916 which is further comprised of a channel quality monitor [1918] and a power strength monitor 1920" (page 63, lines 25-30). "As shown in Figure 19, source control monitor 1916 selectively determines (via switches 1924a and 1924b) whether or not antennae 1902a and 1902b pass any received MD bitstreams to receiver 1904. More specifically, channel quality monitor 1918 of the present embodiment detects channel qualities such as the signal strength from various base stations" (page 64, lines 2-7). "This encoded video stream is ultimately to be displayed to a user via display 1912" (page 63, lines 38-39).

VI. Grounds of Rejection to Be Reviewed on Appeal

1. Claims 1-3, 5-10, 12, 14-20 and 22-24 are rejected under 35 U.S.C. § 103(a) as being unpatentable by EP 0915598 to Matsushita Electric Industrial Co. (referred to hereinafter as "Matsushita") in view of U.S. Patent No. 7,062,250 by Kosaka (referred to hereinafter as "Kosaka").

2. Claims 4, 11 and 21 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Matsushita in view of Kosaka and further in view of "Error-Resilient Video Compression" (referred to hereinafter as "Apostolopoulos").

VII. Argument

1. Whether Claims 1-3, 5-10, 12, 14-20 and 22-24 are unpatentable over Matsushita in view of Kosaka.

The Final Office Action mailed December 31, 2007, states that Claims 1-3, 5-10, 12, 14-20 and 22-24 are rejected under 35 U.S.C. § 103(a) as being unpatentable by EP 0915598 to Matsushita Electric Industrial Co. (referred to hereinafter as "Matsushita") in view of U.S. Patent No. 7,062,250 by Kosaka (referred to hereinafter as "Kosaka"). The Appellants have reviewed Matsushita and Kosaka respectfully submit that embodiments of the instant application are patentable over Matsushita or Kosaka, alone or in combination, for at least the following rationale.

Claim 1 recites, in part (emphasis added):

> A client for receiving multiple description media streams, said client comprising:
> ...
> a source control module coupled to said synchronization module, said source control module for determining appropriate operation characteristics of said client, wherein said source control module comprises a power strength monitor that monitors power consumption by said client, wherein said client uses information from said power strength monitor to make a decision about how many of said multiple description bitstreams to receive; and
> ....

Independent Claims 8 and 18 include similar recitations. Moreover, Claims 2, 3 and 5-7 that depend from independent Claim 1, Claims 9, 12 and 14-17 that depend from independent Claim 8, and Claims 19, 20 and 22-24 that depend from independent Claim 18 also include these recitations.

Appellants respectfully assert that the combination of Matsushita and Kosaka does not teach, describe or suggest the invention as claimed because the combination of the Matsushita and Kosaka does not satisfy the requirements of a *prima facie* case of obviousness.

"As reiterated by the Supreme Court in *KSR*, the framework for the objective analysis for determining obviousness under 35 U.S.C. 103 is stated in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966). Obviousness is a question of law based on underlying factual inquiries" including "[a]scertaining the differences between the claimed invention and the prior art" (MPEP 2141(II)). "In determining the differences between the prior art and the claims, the question under 35 U.S.C. 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious" (emphasis in original; MPEP 2141.02(I)). Appellants note that "[t]he prior art reference (or references when combined) need not teach or suggest all the claim limitations, however, Office personnel must explain why the difference(s) between the prior art and the claimed invention would have been obvious to one of ordinary skill in the art" (emphasis added; MPEP 2141(III)).

Moreover, Appellants respectfully note that "[a] prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention" (emphasis in original; MPEP 2141.02(VI); *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984)).

Appellants understand Matsushita to disclose a distributed internet protocol-based real-time multimedia streaming architecture using multiple media push engines to communicate with the multimedia client through a multi casting network (Abstract). In particular, Appellants respectfully submit that Matsushita discloses that the media push engines control all decisions regarding the selection of media streams to push to the multimedia client. Matsushita recites "[a]dmission control to the group multicast session is administered in a distributed fashion, where an admission control unit opens the multicast stream, with all subsequent admission control decisions being made by the media push engines themselves" (emphasis added; Abstract). Furthermore, Matsushita recites "the media push engines control the multicast group session admission process themselves, in a distributed fashion, adding or subtracting media push engines to the group session as needed to maintain a high quality of services" (emphasis added; col. 4, lines 28-32).

With reference to Figure 4 of Matsushita, "[t]he multimedia client's RTCP receiver report notifies the Media Push Engine 12 (and all other media push engines participating in the group session) that some percentage of the component data from Media Push Engine 12. Media Push Engine 12 analyzes these reports and stops sending a selected component, in this case the X_3, thereby decreasing the amount of traffic flowing through its point of congestion" (col. 9, lines 37-44). In particular, Appellants respectfully submit that nowhere does Matsushita teach, describe or suggest the multimedia client sending commands, controlling the media push engines, or controlling which sub-stream components are received.

Therefore, Appellants respectfully submit that Matsushita does not teach or suggest, "wherein said client uses information from said power strength monitor to make a decision

about how many of said multiple description bitstreams to receive," (emphasis added) as recited by independent Claim 1 and the similar embodiments of independent Claims 8 and 18. Furthermore, by specifically disclosing that "all subsequent admission control decisions being made by the media push engines themselves", Appellants respectfully submit that Matsushita teaches away from the claimed embodiments.

Furthermore, Appellants respectfully submit that Kosaka does not remedy the shortcomings of Matsushita. Appellants understand Kosaka to disclose a radio communication terminal operable to detect remaining electric power of the battery (Abstract). In particular, Appellants respectfully submit that Kosaka does not teach, describe or suggest "wherein said client uses information from said power strength monitor to make a decision about how many of said multiple description bitstreams to receive" (emphasis added) as claimed.

Appellants note that in the Response to Arguments of the Final Office Action mailed December 31, 2007, it is asserted that Matsushita "teaches the distribution of load upon the network" (Final Office Action mailed December 31, 2007; page 3, line 20). Appellants respectfully maintain that such a teaching does not teach, describe or suggest "wherein said client uses information from said power strength monitor to make a decision about how many of said multiple description bitstreams to receive" (emphasis added) as claimed, and respectfully submit that Matsushita teaches away from the claimed embodiments.

In view of the combination of Matsushita in view of Kosaka not satisfying the requirements of a *prima facie* case of obviousness, Appellants respectfully submit that

independent Claims 1, 8 and 18 overcome the rejection under 35 U.S.C. § 103(a), and that these claims are thus in a condition for allowance. Appellants respectfully submit the combination of Matsushita in view of Kosaka also does not teach or suggest the additional claimed features of the present invention as recited in Claims 2, 3 and 5-7 that depend from independent Claim 1, Claims 9, 12 and 14-17 that depend from independent Claim 8, and Claims 19, 20 and 22-24 that depend from independent Claim 18. Therefore, Appellants respectfully submit that Claims 2, 3, 5-7, 9, 12, 14-17, 19, 20 and 22-24 also overcome the rejection under 35 U.S.C. § 103(a), and are in a condition for allowance as being dependent on an allowable base claim.

2. Whether Claims 4, 11 and 21 are unpatentable over Matsushita in view of Kosaka, further in view of Apostolopoulos.

The Final Office Action mailed December 31, 2007, asserts that Claims 4, 11 and 21 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Matsushita in view of Kosaka and further in view of "Error-Resilient Video Compression" (hereinafter, "Apostolopoulos"). The Appellants have reviewed Matsushita, Kosaska and Apostolopoulos and respectfully submit that the embodiments recited by Claims 4, 11 and 21 are patentable over Matsushita, Kosaka or Apostolopoulos, alone or in combination, for at least the following rationale.

Claim 4 is dependent on independent Claim 1, Claim 11 is dependent on independent Claim 8, and Claim 21 is dependent on independent Claim 18. Hence, by demonstrating that the combination of references does not show or suggest the embodiments of Claims 1, 8 and 18, it is also demonstrated that the combination of references does not show or suggest the embodiments of Claims 4, 11 and 21.

As presented above, Appellants respectfully submit that the combination of Matsushita and Kosaka does not show or suggest the embodiments of independent Claims 1, 8 and 18. Appellants further submit that Apostolopoulos does not overcome the shortcomings of Matsushita and Kosaka.

Appellants understand Apostolopoulos to disclose error-resilient video compression via multiple state streams. In particular, Appellants respectfully submit that Apostolopoulos does not teach, describe or suggest "wherein said client uses information from said power strength monitor to make a decision about how many of said multiple description bitstreams to receive" (emphasis added) as claimed.

In view of the combination of Matsushita in view of Kosaka, further in view of Apostolopoulos not satisfying the requirements of a *prima facie* case of obviousness, Appellants respectfully submit that independent Claims 1, 8 and 18 overcome the rejection under 35 U.S.C. § 103(a), and that these claims are thus in a condition for allowance. Appellants respectfully submit the combination of Matsushita in view of Kosaka, further in view of Apostolopoulos also does not teach or suggest the additional claimed features of the present invention as recited in Claim 4 that depends from independent Claim 1, Claim 11 that depends from independent Claim 8, and Claim 21 that depends from independent Claim 18. Therefore, Appellants respectfully submit that Claims 4, 11 and 21 also overcome the rejection under 35 U.S.C. § 103(a), and are in a condition for allowance as being dependent on an allowable base claim.

Conclusion

Appellants believe that pending Claims 1-3, 5-10, 12, 14-20 and 22-24 are patentable over Matsushita in view of Kosaka and that pending Claims 4, 11 and 21 are patentable over Matsushita in view of Kosaka, further in view of Apostolopoulos.

In summary, Appellants respectfully submit that the rejections of the Claims are improper as the rejection of Claims 1-12 and 14-24 does not satisfy the requirements of a *prima facie* case of obviousness. Accordingly, Appellants respectfully submit that the rejection of Claims 1-12 and 14-24 under 35 U.S.C. §103(a) is improper and should be reversed.

The Appellants wish to encourage the Examiner or a member of the Board of Patent Appeals to telephone the Appellants' undersigned representative if it is felt that a telephone conference could expedite prosecution.

Respectfully submitted,
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Dated: 4/22/2008

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VIII. Appendix - Clean Copy of Claims on Appeal

1. A client for receiving multiple description media streams, said client comprising:

a multiple description receiving portion, said multiple description receiving portion adapted to receive a plurality of multiple description bitstreams, wherein said multiple description receiving portion receives a particular multiple description bitstream from a first server that said particular multiple description bitstream is stored on based on a level of service said first server is capable of providing and potentially receives said particular multiple description bitstream at a later time from a second server because said particular multiple bitstream was redistributed to said second server because said second server is capable of providing a higher level of service than said first server;

memory coupled to said multiple description receiving portion, said memory adapted to store said plurality of multiple description bitstreams in respective portions thereof;

a synchronization module coupled to said memory, said synchronization module adapted to blend said plurality of multiple description bitstreams;

a decoder coupled to said synchronization module, said decoder for decoding said plurality of multiple description bitstreams;

a source control module coupled to said synchronization module, said source control module for determining appropriate operation characteristics of said client, wherein said source control module comprises a power strength monitor that monitors power consumption by said client, wherein said client uses information from said power strength monitor to make a decision about how many of said multiple description bitstreams to receive; and

a user interface device coupled to said decoder, said user interface device adapted to present media previously encoded into said plurality of multiple description bitstreams to a user.

2. The client for receiving multiple description media streams of Claim 1 wherein said client is a mobile client.

3. The client for receiving multiple description media streams of Claim 2 wherein said source control module further comprises a channel quality monitor, said channel quality monitor for monitoring characteristics of channels on which said plurality of multiple description bitstreams are received.

4. The client for receiving multiple description media streams of Claim 1 wherein said decoder is adapted to perform decoding operations compatible with standards selected from the group consisting of: MPEG-4 Version 2 (with NEWPRED) and H.263 Version 2 (with RPS).

5. The client for receiving multiple description media streams of Claim 1 wherein said user interface device is comprised of a display device.

6. The client for receiving multiple description media streams of Claim 1 wherein said user interface device is comprised of an audio output device.

7. The client for receiving multiple description media streams of Claim 1 further comprising:

transmission means coupled to said synchronization module, said transmission means for transmitting information related to said operation characteristics of said client to components of a network to which said client is adapted to be communicatively coupled.

8. A method for receiving multiple description media streams at a client, said method comprising:

receiving a first multiple description bitstream at said client, wherein said first multiple description bitstream is initially received from a first server that said first multiple description bitstream is stored on based on a level of service that said first server is capable of providing and potentially receives said first multiple description bitstream at a later time from a second server because said first multiple bitstream was redistributed to said second server because said second server is capable of providing a higher level of service than said first server;

receiving a second multiple description bitstream at said client;

storing said first multiple description bitstream and said second multiple description bitstream at said client;

decoding said first multiple description bitstream and said second multiple description bitstream;

determining appropriate operation characteristics of said client, said determining comprising monitoring power consumption by said client;

at said client, deciding how many multiple description bitstreams to receive based on said power consumption; and

presenting media previously encoded into said first multiple description bitstream and said second multiple description bitstream to a user.

9. The method for receiving multiple description media streams at a client as recited in Claim 8 further comprising receiving said first multiple description bitstream at a mobile client.

10. The method for receiving multiple description media streams at a client as recited in Claim 8 further comprising storing said first multiple description bitstream and said second multiple description bitstream at said client in respective memory portions.

11. The method for receiving multiple description media streams at a client as recited in Claim 8 further comprising decoding said first multiple description bitstream and said second multiple description bitstream in a manner compatible with standards selected from the group consisting of MPEG-4 Version 2 (with NEWPRED) and H.263 Version 2 (with RPS).

12. The method for receiving multiple description media streams at a client as recited in Claim 9 further comprising determining said appropriate operation characteristics of said mobile client by monitoring characteristics of channels on which said first multiple description bitstream and said second multiple description bitstream are received.

14. The method for receiving multiple description media streams at a client as recited in Claim 8 further comprising adjusting said operation characteristics of said client to achieve appropriate operating characteristics.

15. The method for receiving multiple description media streams at a client as recited in Claim 8 further comprising presenting said media previously encoded into said first multiple description bitstream and said second multiple description bitstream to said user using a display device.

16. The method for receiving multiple description media streams at a client as recited in Claim 8 further comprising presenting said media previously encoded into said first multiple description bitstream and said second multiple description bitstream to said user using an audio output device.

17. The method for receiving multiple description media streams at a client as recited in Claim 8 further comprising transmitting information related to said appropriate operation characteristics from said client to components of a network to which said client is adapted to be communicatively coupled.

18. A client for receiving multiple description media streams, said client comprising:

a multiple description receiving portion, said multiple description receiving portion adapted to receive a plurality of multiple description bitstreams, wherein said multiple description receiving portion receives a particular multiple description bitstream from a first server that said particular multiple description bitstream is stored on based on a level of

service that said first server is capable of providing and potentially receives said particular multiple description bitstream at a later time from a second server because said particular multiple bitstream was redistributed to said second server because said second server is capable of providing a higher level of service than said first server;

memory coupled to said multiple description receiving portion, said memory adapted to store said plurality of multiple description bitstreams in respective portions thereof;

monitoring means for determining the appropriate operation characteristics of said client, wherein said monitoring means comprises a power strength monitor that monitors power consumption by said client, wherein said client uses information from said power strength monitor to make a decision about how many of said multiple description bitstreams to receive;

a decoder coupled to said monitoring means, said decoder for decoding said plurality of multiple description bitstreams;

a user interface device coupled to said decoder, said user interface device adapted to present media previously encoded into said plurality of multiple description bitstreams to a user.

19. The client for receiving multiple description media streams of Claim 18 wherein said client is a mobile client.

20. The client for receiving multiple description media streams of Claim 19 wherein said monitoring means further comprises a channel quality monitor, said channel quality monitor for monitoring characteristics of channels on which said plurality of multiple description bitstreams are received.

21. The client for receiving multiple description media streams of Claim 18 wherein said decoder is adapted to perform decoding operations compatible with standards selected from the group consisting of MPEG-4 Version 2 (with NEWPRED) and H.263 Version 2 (with RPS).

22. The client for receiving multiple description media streams of Claim 18 wherein said user interface device is comprised of a display device.

23. The client for receiving multiple description media streams of Claim 18 wherein said user interface device is comprised of an audio output.

24. The client for receiving multiple description media streams of Claim 18 further comprising:

transmission means coupled to said synchronization module, said transmission means for transmitting information related to said operation characteristics of said client to components of a network to which said client is adapted to be communicatively coupled.

IX. Evidence Appendix

No evidence is herein appended.

X. Related Proceedings Appendix

No related proceedings.